Applied Magnetic Resonance 2013 vol.44 N5, pages 595-603

Experimental Setup for Observation the Bose-Einstein Condensation of Magnons in Solid Antiferromagnets CsMnF3 and MnCO3

Alakshin E., Bunkov Y., Gazizulin R., Klochkov A., Kuzmin V., Rakhmatullin R., Sabitova A., Safin T., Tagirov M.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The Bose-Einstein condensation of magnons was observed in 1984 in superfluid 3He-B. The same phenomena should exist in solid magnetic systems. We describe here a partly digital experimental setup for studying solid antiferromagnets CsMnF3 and MnCO3 by pulse and continuous wave nuclear magnetic resonance. With this equipment, the Bose-Einstein condensation of magnons was observed for the first time in these single crystals. © 2013 Springer-Verlag Wien.

http://dx.doi.org/10.1007/s00723-012-0433-7